

TOTAL E&P UK
Operational Environmental
STATEMENT

2017
twenty seventeen



Contents

Health, Safety & Environment Policy Statement	1
Introduction	2
- TOTAL E&P UK Offshore / Onshore Operations	3
Onshore Operations	4
- Operations at Shetland Gas Plant	4
Offshore Operations	5
- Operations in the Northern North Sea	6
- Operations in the Central North Sea	8
- Operations in the West of Shetland	9
- Drilling Operations	10
- Pipeline Installation & Maintenance	11
Environmental Management System	12
Emissions to Air	13
- EU Emissions Trading Scheme	13
- EU ETS Phase III - Further Reducing Emissions	14
- Non CO ₂ Emissions	14
- Flare Consent	15
- Greenhouse Gas Emissions	16
Energy Efficiency	16
- Water	17
- Discharges to the Sea	17
- Produced Water	17
- Chemical Use	18
- Accidental Spills	19
Waste	20
- Waste Management	21
- Offshore Waste Management	22
Legal Compliance	23
- Partner Information	24
Management of Major Environmental Hazards	24
- Environmental Goals - 2017 (Achieved)	25
- Environmental Goals - 2018 (Planned)	26
ISO 14001 Certificate	27

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Health, Safety & Environment Policy Statement



Health, Safety and Environment Policy Statement

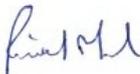
Total E&P UK (TEPUK) as a subsidiary of the Total Group, are committed to delivering our business objectives whilst prioritising a safe working environment for our employees, contractors and other stakeholders; safeguarding the environment and preventing pollution; complying with laws and regulations and preventing Major Accident Hazards. This commitment is visibly demonstrated through implementation and compliance with the Company Management System (CMS) and measured via the setting of annual targets and establishment of company objectives:

It is our stated policy to:


Mohamed-Amine Soudani
 Exploration & New Ventures
 Director

- Maintain safe, energy efficient and regulatory compliant operations in all our activities by providing assets, facilities and equipment that have been efficiently designed and procured in accordance with BATNEEC and installed, commissioned and maintained, in accordance with TEPUK and TOTAL Group procedures.


Henning Eide
 Legal Director


Brian Wilkie
 Corporate Services Director

- Systematically identify for all activities, the hazards to which people, the environment and assets are exposed, evaluate the risks and define the measures for eliminating or reducing them to as low as reasonably practicable (ALARP).


Emmanuel L'Ebraly
 Finance Director

- Execute our activities whilst meeting our local, national and international compliance obligations, along with TEPUK and TOTAL Group procedures.

Mariam Kane-Garcia
 Strategy & Business Director

- Continue to develop a positive HSE culture through strong visible leadership, active involvement of the workforce, individual accountability and a spirit of co-operation.

- Monitor the health of all employees to ensure they are not adversely affected by the work environment.

- Adopt the principles of continuous improvement by setting measurable business objectives, monitoring and reviewing performance through independent audits and statistical analysis of results.

- Ensuring our emergency response capability is suitable for responding to hazards and regularly testing the effectiveness of this response by controlled exercises.

- Work with our contractors and suppliers to ensure they understand our HSE requirements, whilst being prepared to listen to suggested improvements in areas where they have highly developed knowledge, in order to deliver mutually beneficial results.

Steve Rose
 HSE Director



Pierre Cuisnier
 Asset Director WOS



David Hainsworth
 Asset Director NNS



Eric Zaugg
 Asset Director CGA



Elisabeth Proust
 Managing Director TEPUK



Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Introduction

It is my pleasure to present to you the 2017 Operations Environmental Statement for Total E&P UK Limited (TEPUK). All of us at TEPUK encourage and support the protection of the environment, the safety of people, property, and the principles of sustainable development.

We have had a period of positive change during the last 12 months with the new fields of Glenlivet and Edradour, West of Shetland coming on line. Our Elgin/Franklin asset in the Central North Sea continues to produce successfully following the completion of further major project works. The Alwyn & Dunbar assets in the Northern North Sea have also seen a robust and comprehensive maintenance programme successfully carried out along with preparations for platform drilling from Alwyn.

In 2017 Total acquired Maersk Oil and its associated assets, the integration of TEPUK and Maersk Oil assets in the UK will be completed in 2018.

This work not only underlines TEPUK's commitment to the UK offshore industry but also our broader commitment to make energy more affordable, reliable and cleaner.

Our Challenge: Total's ambition is to be **the responsible energy major**. We are dedicated to three core challenges: satisfying the energy needs of the world, reducing and limiting the impact of climate change and adapting to changing customer expectations.

Our response: We aim to operate sustainably and have an active and positive presence in all our host countries in such varied areas as safety, health, climate, the environment and shared development.

Our vision for the environment contains four strands:

- **Combating Climate Change:** through curtailing our emissions and moving forward with new technologies such as carbon capture utilisation and storage.
- **Controlling our Local Environmental Footprint:** by protecting the environment near our facilities, striving to maintain the ecosystem's diversity as well as its water and air quality, cutting back on our waste and guarding against spills and pollution caused by accidents.
- **Developing Renewable Energies:** solar energy and biomass are the two focuses of our expertise and capabilities in the renewable energies field.
- **Develop Eco-Efficient Solutions:** leveraging innovation to serve continuous improvement, our Total Ecosolutions programme is aimed at developing products and services to help our customers to reduce their environmental footprint by consuming less and in more sustainable ways.

In this Operations Environmental Statement, we are proud to display our transparency and accountability to our stakeholders, our dedication to employing the best environmental practices within our operations and our ambition to continually improve our performance.

In this report you will find a description of the onshore and offshore facilities we operate and the main activities carried out on our sites;

- An overview of our Environmental Management System;
- Details of the environmental emissions and discharges from our operations in 2017;
- A summary of our 2017 objectives, targets and our performance against them;
- An outline of our 2018 objectives and targets.



"I hope that you will find the report both informative and interesting and I look forward to any questions or comments that you may have".

Jean-Luc Guiziou
Managing Director
May 2018



Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

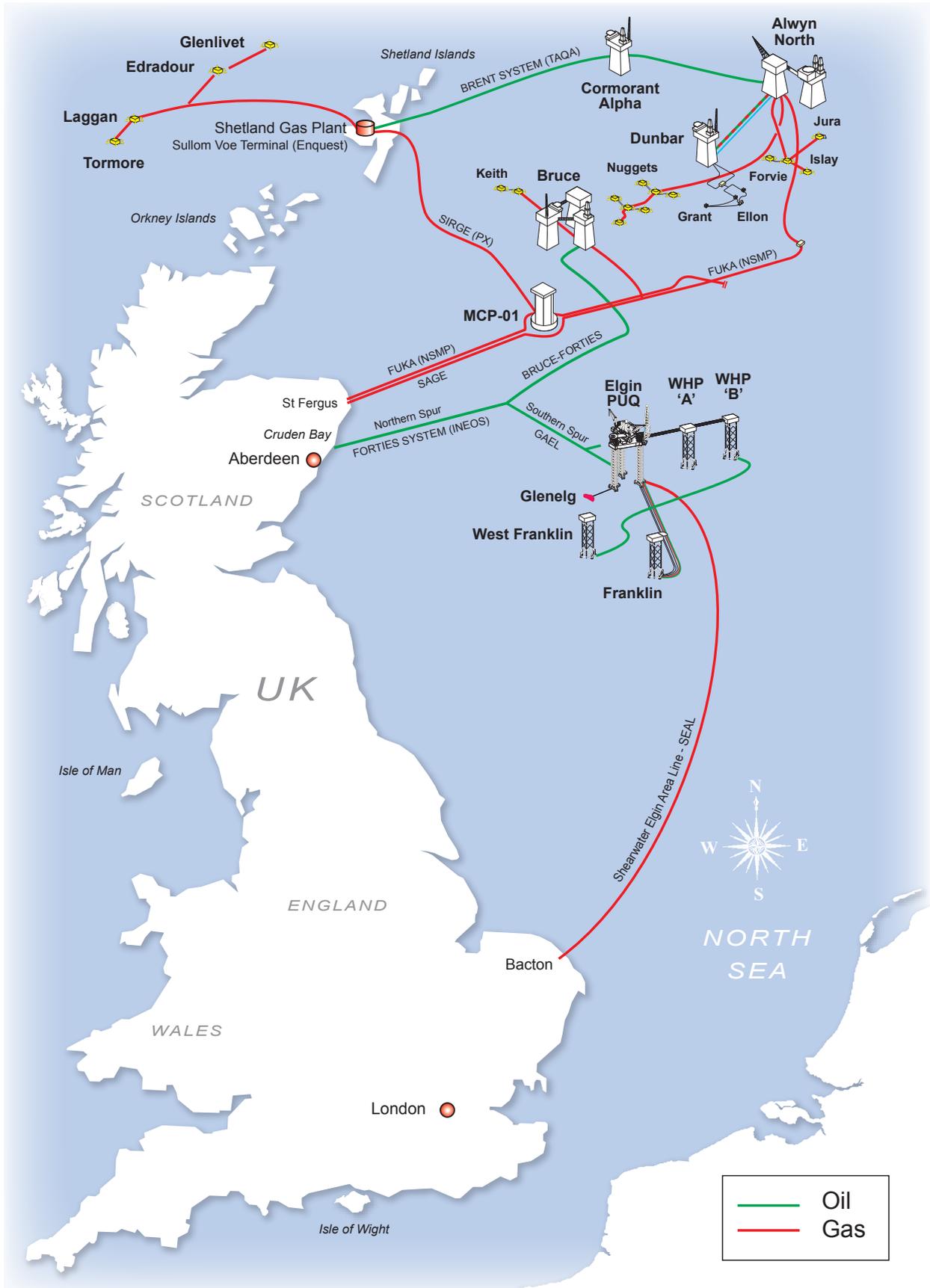


Figure 1 : TOTAL E&P UK Offshore/Onshore Operations

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Onshore Operations



Figure 2 : Operations at the Shetland Gas Plant

TOTAL E&P UK Limited (TEPUK) SGP

The Shetland Gas Plant provides facilities for reception, processing and export of natural gas and its associated condensate from the Laggan and Tormore gas condensate fields located to the West of Shetland. SGP is located approximately 28 miles North of Lerwick on the main island of the Shetland Isles.

Gas arrives at SGP through 2 pipelines, each 18" diameter which carries gas from the WOS fields. When gas arrives at the plant, liquids are removed in the slugcatchers before the gas is dried, co-mingled, chilled, re-heated and metered, before being sent via a 30" diameter export line to join with the existing 32" diameter Frigg UK (FUKA) pipeline system to the St Fergus Gas Terminal.

Production started in 2016 and peak production rates are expected to be around 81kboe/d. The environmental management system in place at the SGP ensures that strict environmental monitoring and performance standards can be achieved. This is regulated by the Scottish Environment Protection Agency.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Offshore Operations



Figure 3 : Operations in the North Sea

TOTAL E&P UK Limited (TEPUK) is one of the largest exploration and production subsidiaries of the TOTAL Group. TOTAL is the world's fourth-largest oil and gas company, as well as a major integrated player in low-carbon energies. With operations in more than 130 countries, our 98,000 employees discover, produce, process, sell and market energy in a variety of forms, all the way to end-customers. The TOTAL Group engage in all aspects of the petroleum industry: from oil and gas exploration, development and production, to refining, marketing, trading and shipping, to production of base chemicals and specialty chemicals for industrial and domestic use.

Operations in the Northern North Sea



Figure 4 : Alwyn North Platform

TEPUK's Northern North Sea (NNS) hub lies 160km east of the Shetland Islands and 440km northeast of Aberdeen in Block 3/9a

Our **Alwyn North field** lies at the heart of this area and first produced oil in 1987. Alwyn North is the hub of the Alwyn area and the support centre for the neighbouring Dunbar, Ellon, Grant, Nuggets, Forvie North, Jura and Islay fields.

These neighbouring fields were brought onstream through innovation and technological advances, thereby extending the life of the Alwyn area past 2020.

The field comprises two bridge-linked platforms in a water depth of 126m. North Alwyn A (NAA) provides drilling and accommodation facilities, while North Alwyn B (NAB) provides processing facilities. NAB supplies other Alwyn area fields with power, water and chemicals via a network of subsea cables and pipelines.

Alwyn North has facilities for the re-injection of both drill cuttings and produced water. Untreated oil and gas from neighbouring Alwyn area fields is piped to NAA and across the bridge to NAB for processing and export to shore. Oil from NAB is exported to the Sullom Voe Oil Terminal in Shetland via the Cormorant Alpha platform and the Brent pipeline system. Gas from NAB is exported to the St Fergus Gas Terminal on the north-east coast of Scotland via the Frigg pipeline system.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Our **Dunbar field**, situated 22km south of Alwyn North, first produced oil and gas in 1994. Dunbar comprises a platform together with well and accommodation facilities. Produced oil, gas and water are pumped back to the Alwyn platform via a 22km subsea multiphase pipeline. The Dunbar platform has facilities for drill cuttings reinjection, and some produced water reinjection.



Figure 5 : Dunbar Platform

Ellon, a subsea oil development and **Grant**, a subsea gas condensate development are located around 9km from Dunbar and linked to the Dunbar platform by flowlines and control umbilicals. Ellon started production in 1994 and Grant followed in 1998.

Nuggets is a development of four gas-bearing accumulations located 20km south of Dunbar. Brought into production during 2002/03, gas from Nuggets is piped back to Alwyn North via a 67km subsea pipeline.

Forvie North is a gas condensate development which started production in January 2006. It comprises subsea production facilities and a 32km pipeline tied back to the Alwyn North platform.

Jura is a subsea gas condensate development located 30km south of the Alwyn North platform. The development is located in 113m water depth and consists of a two well subsea tie-back to the Forvie manifold via a 3km bundle assembly. First gas was achieved in May 2008.

Islay is TEPUK's latest development in the Alwyn Area. Islay is a gas/condensate field located just over 30km to the south of Alwyn North. The development consisted of a single well tied back with a 6km gas and condensate pipeline to the Forvie subsea manifold, with gas and condensate transported via the existing pipeline to Alwyn North. First production from this field was achieved in 2012.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Operations in the Central North Sea



Figure 6 : Elgin PUQ and Complex

Our Assets in the Central Graben Area of the North Sea comprise the **Elgin, Franklin, Glenelg & West Franklin** fields, and are located 240km east of Aberdeen. Production started in 2001, the Elgin/Franklin field was the first high pressure-high temperature (HP/HT) offshore development in the world.

Field reservoirs lie in a structurally complex area nearly 6km below the seabed where the pressure is close to 1100 bar and the temperature is around 190°C. These conditions necessitate specialist engineering, equipment and management.

Elgin consists of central processing facilities located on a Process, Utilities and Quarters (PUQ) platform bridge-linked to two wellhead platforms, Elgin WHP A and Elgin WHP B. Franklin WHP and West Franklin WHP are normally unattended satellite platforms that tie back to the Elgin PUQ. The PUQ is, in effect, a miniature gas refinery with a sophisticated process plant onboard to produce commercial quality gas. Liquids from Elgin/Franklin are exported to Cruden Bay on the north east coast of Scotland via the Graben Area Export Line (GAEL) pipeline and Forties Pipeline System. Liquids are then piped onwards to Kinneil for tanker export. Gas from Elgin/Franklin is exported to the Bacton terminal in Norfolk via the 468km Shearwater Elgin Area Line (SEAL) pipeline.

The **West Franklin** field is an adjacent structure to the western margin of Franklin Field in the Central Graben area of the North Sea. The structure straddles the 29/4d and 29/5c blocks and is an ultra HP/HT field.

The West Franklin jacket was installed in August 2011, the Elgin B WHP jacket in 2012. The topsides for the two facilities were installed in summer 2013, the commissioning was completed in 2014 with first gas produced in early January 2015.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Operations in the West of Shetland



Figure 7 : The Shetland Gas Plant

The West of Shetland operations include the now producing Laggan and Tormore fields and Edradour and Glenlivet fields. The Laggan and Tormore fields are situated some 125km North West of the Shetland Islands on the UK Continental Shelf approximately 600m below sea level and the Edradour and Glenlivet fields are situated approximately 70 km North West of the Shetland Islands at a depth of 300 – 430m.

Edradour and Glenlivet tie into the Laggan and Tormore pipelines. The Laggan and Tormore inport pipelines are the longest subsea tie back in the UK. It equals the longest in the world with Snohvit in Norway. The co-mingled fluids are transported through these production pipelines to Shetland Gas Plant, which has a capacity of up to 15Mscm/d gas and 35 kbb/d condensate, for processing and export to St. Fergus Gas Terminal on the North East Coast of Scotland via the Shetland Island Regional Gas Export (SIRGE) pipeline, a 234km long export pipeline which connects to the existing Frigg UK Area (FUKA) pipeline.

Edradour and Glenlivet Pipelines were connected to the existing Laggan Tormore pipelines in 2017.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Drilling Operations



Figure 8 : West Phoenix

TEPUK delivered an extensive exploration, development and well intervention drilling programme in 2017 with drilling operations being completed successfully and safely across all assets.

In the Central Graben Area, the Prospector 5 jack up drilling rig was used in several different drilling operations throughout 2017. This included the drilling and completion of the third development well from the newly installed Elgin Wellhead B Platform (B3), which was brought on line in 2017.

The Rowan Gorilla V (RGV) jack up rig was used to drill the Sween exploration well, which was later plugged and abandoned, as well as to secure and abandon the F6Z well which is within the Franklin field. The Galaxy 1 drilling rig was used to drill the monitoring ELMOW well in the Elgin field.

In the West of Shetland area the West Phoenix Semi-Submersible was used to complete Glenlivet G1 and G2 production wells, which were brought on line in 2017.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Pipeline Installation & Maintenance



Figure 9 : Edradour Flowline Installation

In 2017 in Northern North Sea we conducted routine pigging of our Dunbar to Alwyn 16" multiphase export pipeline using both specialised scale removal pigging tools and standard bi-directional pigging tools.

The Alwyn Liquid Export pipeline to Cormorant Alpha was also pigged throughout the year for wax removal purposes.

ROV inspection and cathodic protection monitoring was completed on several pipelines in the NNS area, including the Dunbar to Alwyn multiphase export pipeline, the Dunbar to Alwyn water injection pipeline and the Ellon Grant subsea flowlines to the Dunbar platform.

In the Central Graben Area, we replaced the riser ESDV and removed a pig launcher valve on the Elgin Gas Export pipeline, with the use of an in-line high pressure isolation plug. We completed ROV inspections and cathodic protection monitoring of the Elgin Gas Export & Condensate Export pipelines, in addition to the Franklin Interfield Bundle. ROV inspections were also completed on the risers and caissons on the 5 jacket structures in the asset.

West of Shetland routine pigging of the two 18" flowlines was carried out using a standard bi-directional pigging tool. ROV inspection works were also completed at the subsea manifolds at Tormore and Laggan, in addition to freespan monitoring on the midline sections.

Pipeline construction and commissioning activities were completed on the new Edradour Glenlivet pipeline system, with start-up of both fields achieved in September 2017. The system includes two 12" production pipelines, one 6"/2" MEG/Service pipeline, a controls umbilical and two production manifolds servicing three subsea wells in 300 – 400m water depth.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Environmental Management System



Figure 10 : Continuous Improvement Wheel

Environmental Management is embedded within the overall TEPUK Company Management System (CMS).

Our Health, Safety & Environment (HSE) arrangements are built on the foundations of the guidance contained in ‘HSG(65)’, the environmental standard ‘ISO 14001’ and the Total Group Health, Safety & Environment framework ‘One-MAESTRO’.

One-MAESTRO (Management And Expectation Standards Towards Robust Operations) contributes to the achievement of this goal by setting out ten HSE Principles and their associated Expectations that are to be met in terms of safety at the workplace, control of major hazards, security, industrial hygiene, environmental protection, quality of our products and services as well as community involvement.

Consistent with our HSEI&S policy, the intended outcomes of the CMS includes:

- **enhancement of environmental performance**
- **achievement of environmental objectives**
- **fulfilment of compliance obligations**

Our CMS first achieved external certification to ISO14001:2004 in 2001. TEPUK was successfully recertified against ISO14001:2004 standard in 2015 and we are currently going through a transition from ISO 14001:2004 to the new version ISO 14001:2015 and will be looking to go for recertification against this version in 2018.

This 2017 environmental statement reports our environmental performance against key indicators. These key indicators focus on the following areas:

- **Emissions to Air**
- **Energy Efficiency**
- **Water use & discharges**
- **Waste generation & disposal**
- **Legal Compliance**
- **Management of Major Environmental Hazards**

In 2018 all our environmental aspect registers were reviewed and updated in accordance with the new company structure and ISO14001:2015 standard.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Emissions to Air



Figure 11 : Elgin Complex

Under normal operations, atmospheric emissions resulting from our offshore operations are generated by:

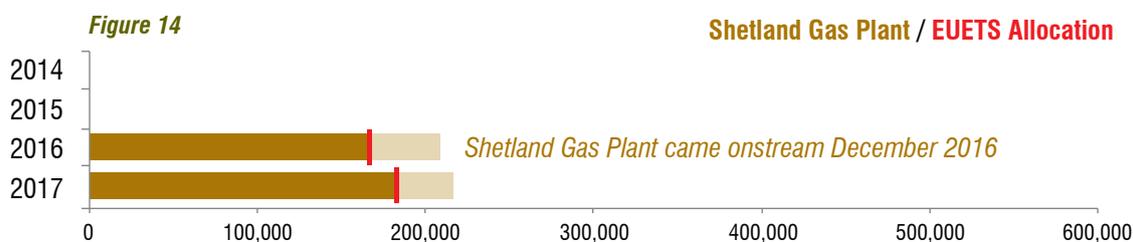
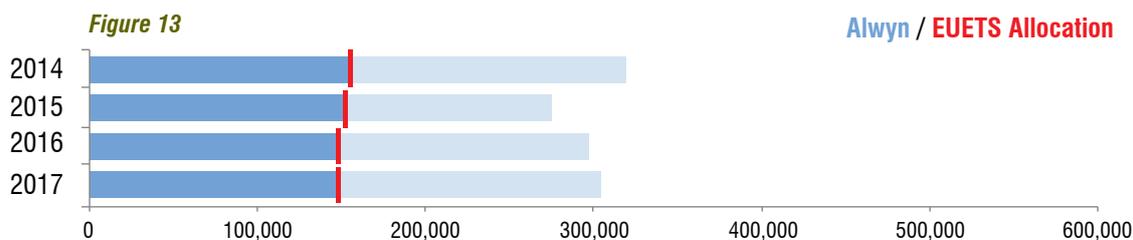
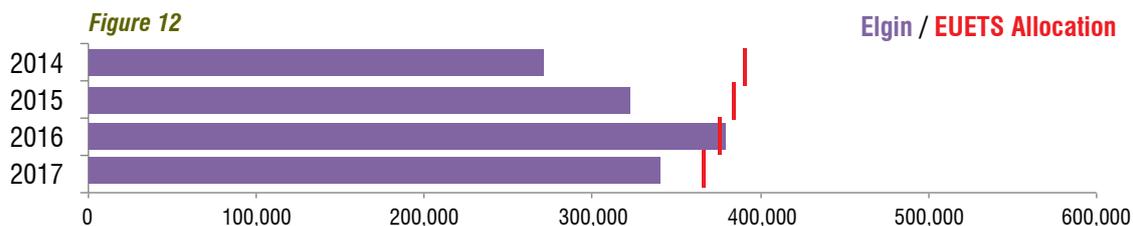
- **Combustion of fuels in turbines and generators that are used for compression and power generation.**
- **Flares which are an integral part of the platform/rig safety systems.**
- **Venting carbon dioxide and hydrocarbons through the process.**
- **Sour Gas which is removed from the product to ensure entry specification is achieved.**

EU Emissions Trading Scheme

The Alwyn North, Elgin PUQ platforms and the Shetland Gas Plant (SGP) exceed the 20MW thermal threshold for combustion installations. Under the Greenhouse Gas (Emissions Trading Scheme) Regulations 2012 for carbon dioxide (CO₂) we are required to report annually on our emissions of CO₂ with a view to reducing emissions year on year. Data relating to our CO₂ emissions is independently verified. The following graphs compare the CO₂ emitted from the North Alwyn, Elgin PUQ and SGP against the free allocated CO₂ allowances for 2017.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Combustion and Flaring Emission (tonnes) CO₂



The figures above show the allocation of EUETS credits and amount of credits surrendered for each year. Alwyn and the Shetland Gas Plant surrendered credits in 2017.

EU ETS Phase III - Further Reducing Emissions

The current phase of the EU ETS builds upon the previous two phases and is significantly revised to make a greater contribution to tackling climate change including: an EU-wide cap on the number of available allowances and an increase in auctioning of those allowances, hence the reduction in freely allocated allowances for the Alwyn, Elgin/Franklin and SGP assets for 2013 onwards.

The EU cap for Phase III will reduce the number of available allowances by 1.74% each year, delivering an overall reduction of 21% below 2005 verified emissions by 2020.

Non CO₂ Emissions

The Alwyn North, Elgin PUQ and SGP assets exceed the 50MW thermal threshold for combustion installations and are regulated under a permit granted by BEIS as per the Offshore Combustion Installations (Prevention and Control of Pollution) Regulations 2013 (IPPC). The IPPC Permit requires that we monitor and report emissions of Nitrogen Oxides (NO_x), Sulphur Oxides (SO_x), Carbon Monoxide (CO), Methane (CH₄) and Volatile Organic Compounds (VOCs) from our Alwyn North and Elgin PUQ installations.

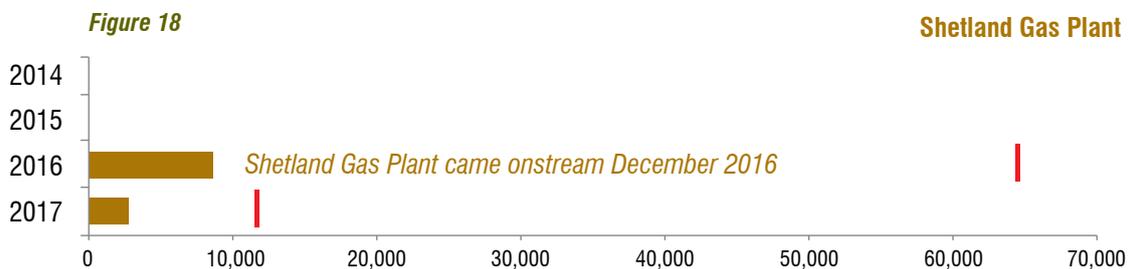
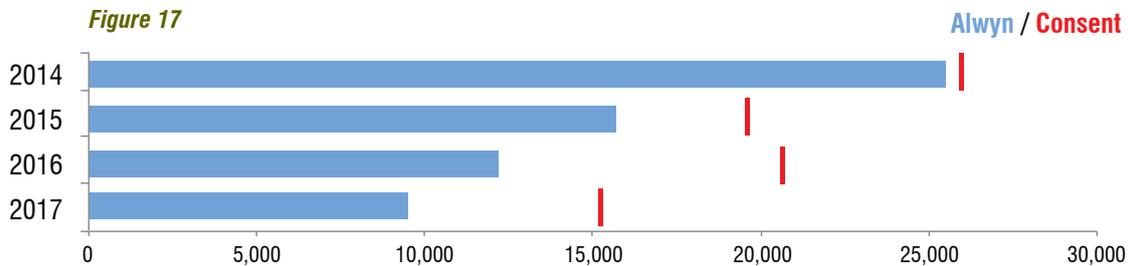
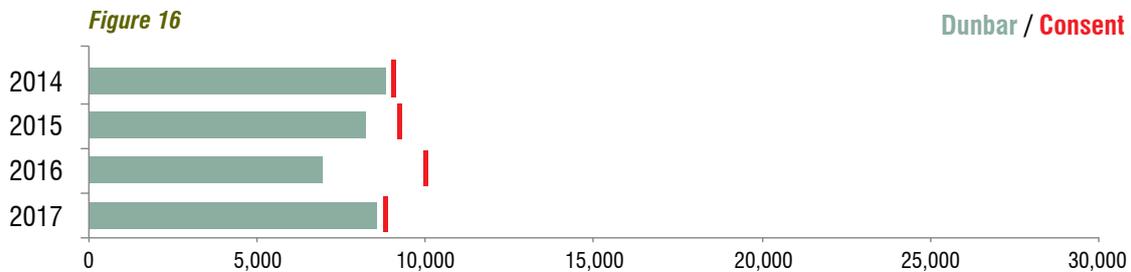
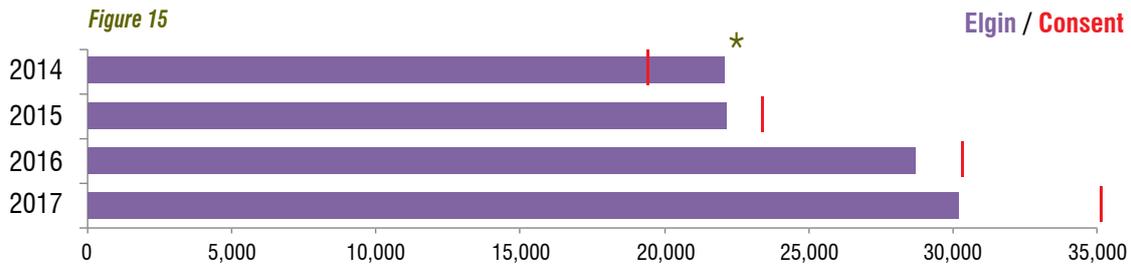
Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Flare Consent

Alwyn North, Dunbar, Elgin PUQ and SGP have flare systems, each of which have pilot flares to ensure safe combustion of any gas entering the flare system.

The Graphs below summarises the platforms' performance against the BEIS (Department of Business Energy and Industrial Strategy) & SEPA (Scottish Environment Protection Agency) Flare Consents.

Flaring emissions (tonnes)



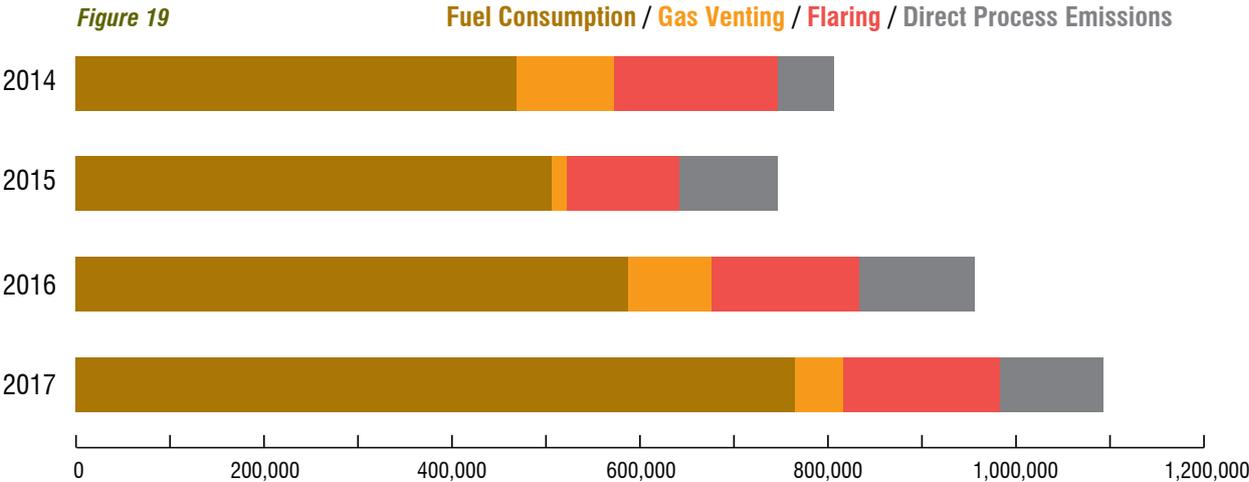
* In 2014 the annual flare consent was exceeded on Elgin. This was mainly due to flaring taking place during unforeseen plant upsets and higher rig moves than expected during Q4.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Greenhouse Gas Emissions

We measure our atmospheric emissions in a number of ways to help identify areas where reductions can be made. By minimising our emissions wherever possible, we actively contribute to a culture which combats climate change. To help us understand our overall impact on climate change we measure the amount of emissions to air from all of our operations and then convert the data on these emissions into a CO₂ equivalent. The graph below shows the emissions to atmosphere from all TEPUK offshore and SGP drilling and production operations.

CO₂ equivalent (tonnes) from TEPUK offshore operations



Energy Efficiency

Managing the energy that we produce offshore is a key part of reducing our environmental emissions. TEPUK has completed a series of energy efficiency assessments on all installations, onshore and offshore.

In 2017 TEPUK completed a benefit analysis of the opportunities which were identified within the Energy Saving Opportunities Scheme (ESOS); the ones which were deemed most beneficial and met the stated aims of the legislation were worked up into a Scope of Requirements and will be implemented in the coming years on the respective assets.

TEPUK, as one of the largest affiliates in the Total group, has in place an action plan to achieve compliance with the group requirements with regards to implementing an energy management system which aligns to ISO 50001, this is expected to be achieved in line with Group timelines.

During October 2017 TEPUK relocated to Total House, a modern office environment providing Modern Open Plan Working. The building has many Efficiency Saving features including:

- Rain Water Harvesting System
- Ground Source Heating which reduces reliance on fossil fuels
- Electrical Vehicle charging points
- 86 PV Panels
- Energy rating of the building (B)

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Water



Figure 20 : Dunbar Platform

Discharges to the Sea

Permitted discharges to sea arising from our operations include:

- Produced Water Discharged to Sea
- Treated Effluent Discharge to sea from Gas Plant operations
- Chemical Discharges to Sea

Produced Water

Produced water is water extracted from the subsurface with oil and gas. It may include water from the reservoir, water that has been injected into the formation and any chemicals added during the production/treatment process

The produced water volumes increased in 2017 in comparison with the previous year. This was due to increased production activity in the Central Graben Area. Total weight of oil discharged has been increased accordingly although due to process enhancements the average oil in water concentration has been reduced.

Year	2014	2015	2016	2017
Total Quantity of produced water discharged (m ³)	144,057	180,722	221,937	249,683
Average Oil in Water Concentration (mg/l)	30.1	15.9	14.3	13.05
Total weight of oil discharged to marine environment in produced water (tonnes)	4.33	2.88	3.17	3.26

Figure 21 : Produced Water Data

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Chemical Use

TEPUK use and discharge chemicals as part of the offshore exploration and production process. The use and discharge of chemicals is regulated under the Offshore Chemicals Regulations 2002 (as amended), and TEPUK is required to obtain appropriate permits from BEIS prior to commencement of these operations.

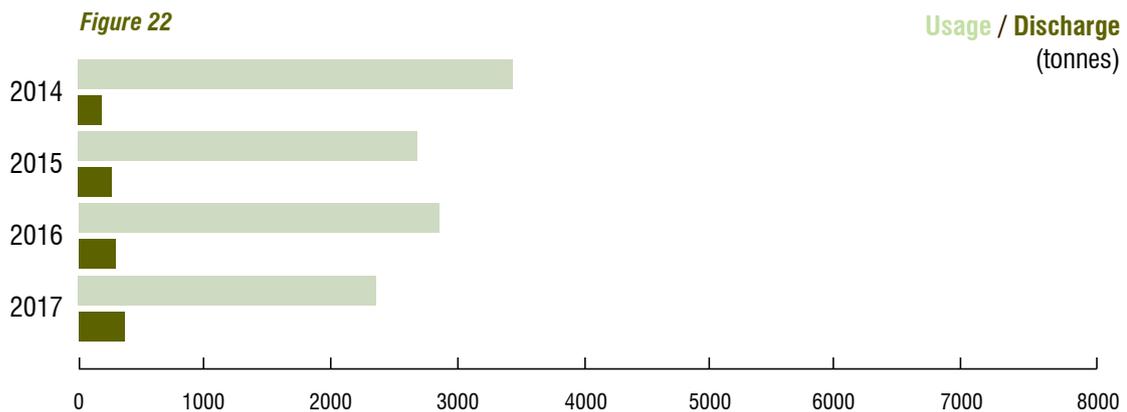
The Oslo-Paris Convention (OSPAR) offshore oil and gas strategy and the OSPAR hazardous substances strategy commits the OSPAR commission and member states to “making every endeavour to move towards the target of cessation of discharges, emissions and losses of hazardous chemicals by the year 2020.”

OSPAR recommendation 2006/3 was enabled in the UK by the issue of the “UK National Plan for the Phase Out of Substances Identified as Candidates for Substitution”. This plan requires TEPUK to ensure arrangements are in place to support the achievement of the goal of zero discharges by 2020.

TEPUK carried on with the development and implementation of our Environmental Chemicals Management Strategy and successfully changed out several of its chemical applications for more acceptable substitutes. This Strategy outlines the process TEPUK has in place to take into account the UK National Plan and the environmental impacts associated with chemical use and discharge. The use of this process enables TEPUK to prioritise the elimination of harmful substances with less harmful alternatives over a given time period.

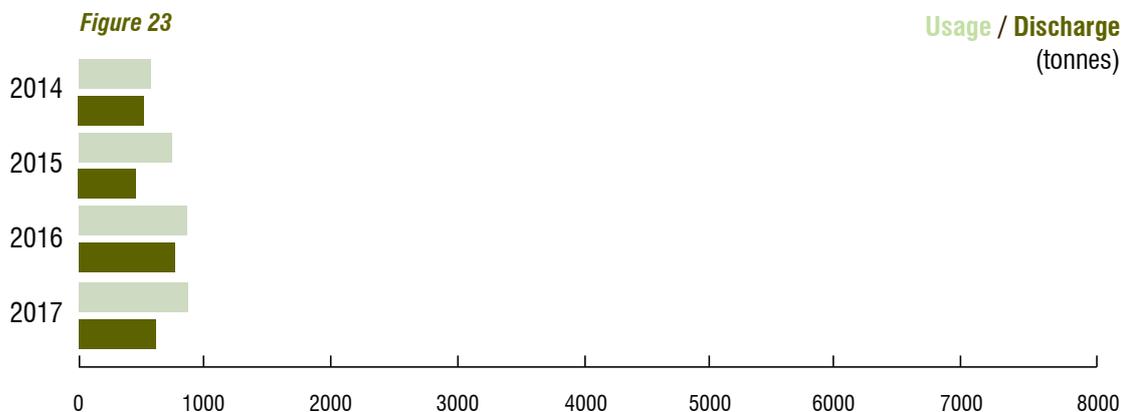
Alwyn Area chemical usage on Production Permit

Figure 22



Central Graben Area chemical usage on Production Permit

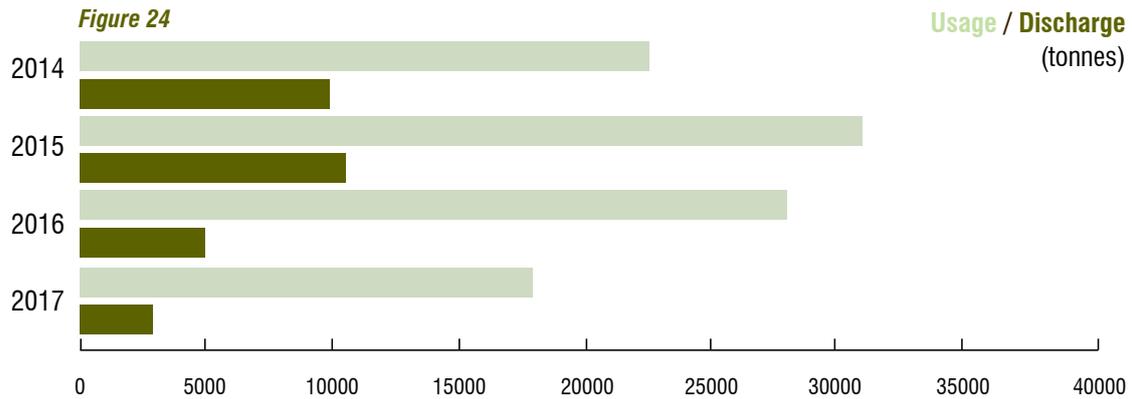
Figure 23



Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

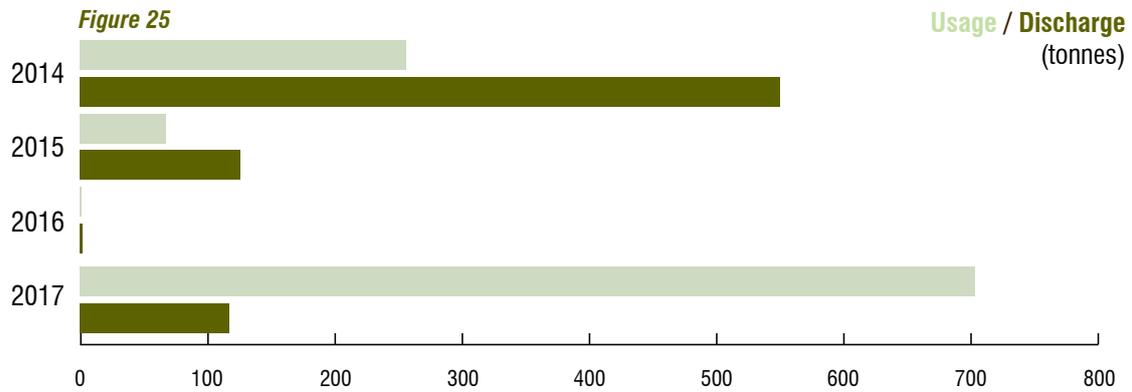
Well Chemical usage & discharge (tonnes)

Figure 24



Pipeline chemical usage & discharge (tonnes)

Figure 25



Accidental Spills

In 2017 TEPUK experienced a decrease in the number of oil spills to sea.

The volume of liquids which was released to the environment increased during this reporting period, primarily this was down to 2 separate incidents which accounted for 90% of the fluids.

Oil Spills

Year	2014	2015	2016	2017
Number of Spills	29	27	26	7
Quantity of Spills (tonnes)	0.237	5.066	0.237	3.796

Chemical Spills

Year	2014	2015	2016	2017
Number of Spills	8	9	15	3
Quantity of Spills (tonnes)	30.88	21.07	0.734	2.276

Figure 26 : Spills Data

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Waste



Figure 27 : Waste Segregation

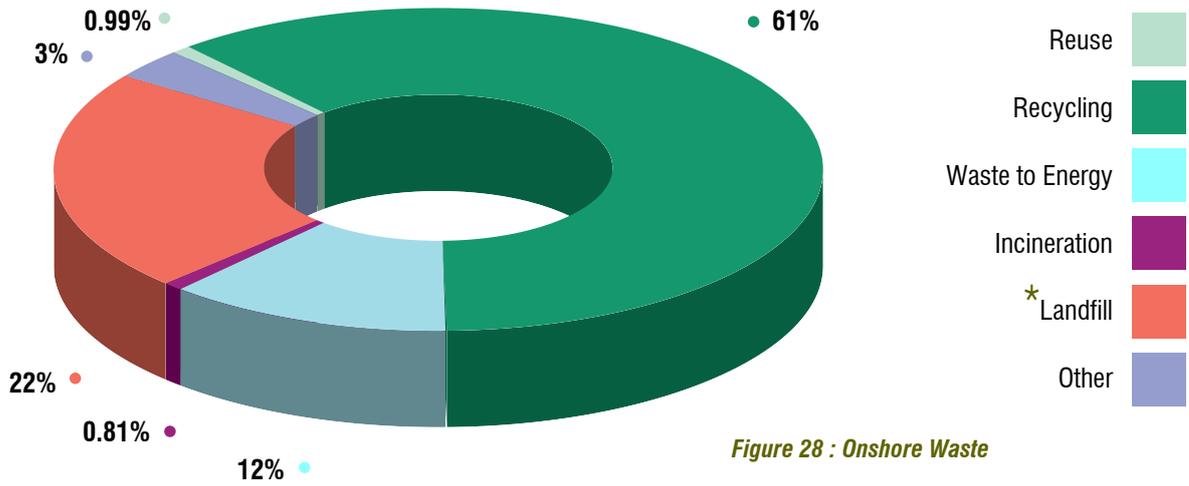
Waste management is another key environmental challenge facing the oil and gas industry. Our operations consume materials that generate a range of waste including drill cuttings, waste chemicals, tank washings residue, waste oil, general waste, paper, scrap metal, glass and wood. We are committed to reducing waste production across all of our operations and effectively managing the waste that is produced. This commitment is consistent with our aim to reduce the impact of our operations on the environment and is in accordance with the waste management hierarchy.

At TEPUK, we continually strive to identify and implement sustainable options for the management of our waste streams and we actively support local, innovative solutions for reuse and recycling of waste.

Waste Management

(Excludes Drill Cuttings)

Onshore waste management routes for wastes generated by TEPUK in 2017.



* >90% of waste to landfill stream in TEPUK is normally represented by solid content of treated tank washings/MODU's slops/vessels mud.

Waste (tonnes)

Year	2014	2015	2016	2017
Alwyn North	1,402	1,479	339	275
Dunbar	170	135	293	144
Elgin	830	323	464	579
MODU's	7,035	23,455	26,795	16,788
SGP	-	-	728	1,047

Figure 29 : Waste Data

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Offshore Waste Management

Some of the wastes generated by our operations are managed offshore and discharged to the marine environment under permit or in the case of cuttings, re-injected into the reservoir. This is industry Best Available Technique (BAT) for the management of these waste types. The table below shows the wastes managed offshore for the last four years. Over the last two years we have seen a significant increase in the amount of drilling activity in TEPUK acreage.

Ongoing drilling campaigns and well intervention work have meant the following Mobile Offshore Drilling Units (MODUs) have been utilised by TEPUK for the whole or part of 2017.

- Rowan Gorilla V
- West Phoenix
- Galaxy I
- Prospector 5

Year	2014	2015	2016	2017
Water Based Drill Cuttings discharged overboard (tonnes)	2,139	4,908	1,027	1,647
Oil Based Drill Cuttings treated by Rotormill and discharged overboard (tonnes)	0	0	0	0
Cuttings, slurry, brine and slops re-injected (tonnes)	0	0	0	0

Figure 30 : Waste Cuttings Data

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Legal Compliance

Unplanned oil and chemical spills associated with TEPUK offshore activities are required to be reported to BEIS using a Petroleum Operations Notice 1. These discharges are discussed within the Accidental Spills section of this Statement.

In addition, TEPUK is also required to submit notifications to BEIS in the event of a non-compliance with the current legislative regime under the Offshore Chemicals Regulations 2002 (OCR) and the Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (OPPC).

The table below shows the number of non-compliances reported to BEIS in 2017.

Installation	Alwyn & Dunbar	Elgin	West of Shetland	MODU's
OCR (Offshore Chemical Regulations)	0	0	2	5
OPPC (Oil Pollution Prevention and Control)	14	0	0	0
PON2	4	0	1	2
PPC	1	1	7	1

Figure 31 : Non-Compliance Data

In 2017 there were numerous short term excursions above the limits of the OPPC permit on the Alwyn platform. These were due to short term trips causing produced water to be discharged to sea and exceeded the OPPC non-compliance reporting threshold.

Non-compliances are investigated where the circumstances meet the criteria of the TEPUK incident investigation process, all findings are noted and dedicated action plans are implemented to address the issues identified and prevent the non-compliance from re-occurring.

As part of the company's ISO14001 certified Environmental Management System, TEPUK regularly conduct internal audits and checks for legal compliance at all of our sites both on and offshore. Any resulting improvement actions are assigned to the appropriate persons with agreed target dates for completion. Implementation of these actions is tracked electronically via the company 'Stre@m' reporting system. Trends are regularly analysed to identify potential room for improvement.

During the Commissioning Phase for SGP, there were several excursions over the defined PPC limits, these occurred in conjunction with the final stages of operational readiness. In 2017 SGP achieved a GOOD assessment score in the SEPA Compliance Assessment Scheme (CAS).

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Partner Information

Area	Company	Percentage	Owner
Northern North Sea area:			
Alwyn / Dunbar	TOTAL	100 %	Operator
Jura	TOTAL	100 %	Operator
Forvie	TOTAL	100 %	Operator
Ellon / Grant	TOTAL	100 %	Operator
Nuggets	TOTAL	100 %	Operator
Islay	TOTAL	94.49 %	Operator
	TOTAL E&P Norge AS	5.51 %	
Central North Sea area:			
Elgin / Franklin	TOTAL	46.17 %	Operator
	ENI Elgin / Franklin Limited	21.87 %	
	Chrysaor	14.11 %	
	Premier Oil E&P UK	5.20 %	
	Chevron North Sea Limited	3.90 %	
	Dyas UK Limited	2.19 %	
	Summit Exploration and Production Limited	2.1875 %	
	ExxonMobil	4.38 %	
Sumitomo	2.19 %		
Glenelg	TOTAL	58.73 %	Operator
	E.ON E&P UK Limited	18.57 %	
	BG International (CNS) Limited	14.70 %	
	ENI UKCS Limited	8.00 %	
West of Shetland area:			
	TOTAL	60.00 %	Operator
	INEOS	20.00 %	
	SSE E&P UK Limited	20.00 %	

Figure 32 : Owner / Operators

Management of Major Environmental Hazards

In line with internal commitments and the revised Offshore Safety Directive, TEPUK has re-defined its approach to managing major environmental hazards.

During 2017 TEPUK undertook a full Environmental Risk Assessment (ERA) of our offshore assets with regards to identifying any potential Major Environmental Incidents (MEI) which could be generated as a result of a Major Accident Hazard occurring. This was done to allow us to submit major reviews of our respective asset safety cases. The process has undergone several iterations and has a more quantitative approach to determining the risk associated with our operations with regards to the surrounding environment.

This approach follows the technical safety strategy. The risk assessment outcome, which considers the environmental sensitivity of an area, is used to define what the MEI's are.

This work builds upon the strategy developed over the last few years and allows TEPUK to document our environmental risks and mitigate them effectively within our Operational Integrity Assurance & Verification Scheme (OIAVS) and update any performance standards accordingly to take account of the risks identified in the ERA process.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Environmental Goals - 2017 (Achieved)

Aspect	Objectives	Targets	Programmes	Achieved
Atmospheric Emissions.	Improve air quality by reducing harmful activities either direct or indirect.	Achieve - GHG Emission Intensity 17 kTCO ₂ eq/Mboe.	Optimise fuel gas usage, flaring and production across TEPUK Sites.	Achieved - GHG Emission Intensity 15.6 kTCO ₂ eq/Mboe.
Energy Management.	Increase the energy efficiency of our operational sites.	Full internal validation after use of new system parameters.	Update the existing management system to align with the requirements of ISO 50001.	Achieved – TEPUK management system is now aligned with requirements of ISO 50001.
Waste.	Management of waste streams and reduce, reuse and recycle.	Achieve waste segregation efficiency of 80%.	Increase awareness on sites.	Achieved – waste segregation efficiency of 94%.
Risk Management.	Review the risks at Shetland Gas Plant (SGP) in line with the new COMAH requirements.	Complete addendum in 2017.	Prepare and submit an addendum to the Shetland Gas Plant (SGP) COMAH Report to the regulator.	Achieved – addendum prepared and submitted to the regulator.
Environmental Management System.	Ensure ongoing legislative compliance at Shetland Gas Plant (SGP).	Fully incorporate SGP into the TEPUK ISO 14001 certification.	Carry out the planning objectives and have in place the requirements of ISO 14001 for SGP.	Achieved – In December 2017, SGP fully included within TEPUK ISO 140001 certification.
Emergency Response.	Enhanced emergency plans for oil spill response.	Conduct spill response exercise for WOS asset.	Plan exercise, involve all identified stakeholders and apply any lessons learned to procedure.	Achieved – exercise was successfully carried out with stakeholder.

Figure 33 : 2017 Summary

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Environmental Goals - 2018 (Planned)

Aspect	Objectives	Targets	Programmes
Atmospheric Emissions.	Improve air quality by reducing harmful activities either direct or indirect.	Achieve - GHG Emission Intensity 13.7 kTCO ₂ eq/Mboe. on existing TEPUK assets.	Optimise fuel gas usage, flaring and production across TEPUK Sites.
Waste.	Management of waste streams and reduce, reuse and recycle.	Achieve waste segregation efficiency of 80%.	Increase awareness on sites.
Risk Management.	Review the risks at the Shetland Gas Plant (SGP) in line with the new COMAH requirements.	COMAH report to be completed by mid-2018.	Prepare and submit the Shetland Gas Plant (SGP) COMAH Report to the regulator.
Environmental Management System.	Gain ISO14001:2015 accreditation.	Gain accreditation to ISO14001:2015 standard.	Carry out processes required in order to gain accreditation.
Chemical Management.	Improve the management of chemicals at TEPUK.	Define and Implement the Chemical Management Process by end of 2018.	Roll out the associated procedures and practices

Figure 34 : 2018 Planned

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

ISO 14001 Certificate



Figure 35 : Certificate

International Standards Organisation (ISO) 14001 provides TEPUK with means to have an effective environmental management system that can be integrated with other management requirements such as safety, production and cost to help environmental and economic goals.

TEPUK are ISO 14001 certified by ERM CVS, a UKAS accredited verifier. To this end, TEPUK are proudly accredited to ISO 14001 and have been since 2001.

Data may have changed from previous years reports as revisions of the data can happen after the reports are finalised.

Feedback

If you have any comments, or would like further information on our environmental impacts or performance, please contact:
Public Affairs & Corporate communications

To view this statement online please visit:

www.total.uk

Total E&I UK Ltd

Total House, Tarland Road,
Westhill AB32 6JZ

tel: 44 (0) 1224 297000

Fax: 44 (0) 1224 298999

www.total.uk



A juvenile Golden Eagle photographed resting on Alwyn North platform

